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EXAMINER

DIVECHA, KAMAL B

ART UNIT PAPER NUMBER

2151

DATE MAILED: 12/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/046,784

Applicant(s)

ERIMLI, BAHADIR

Examiner

KAMAL B. DIVECHA

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/19/06.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

Claims 1-7 are pending in this application.

Applicant's arguments filed September 19, 2006 with respect to claims 1-7 have been fully considered but they are not persuasive.

In response filed, applicant argues in substance that:

- a. Kagan provides no disclosure or suggestion of storing an entry having a work queue entry field that specifies a transmitted work queue entry, where the entry is added based on transmission of the work queue entry, as claimed (remarks, page 10).

In response to argument [a], Examiner respectfully disagrees.

Independent claim 1 recites:

A method in a channel adapter configured for communications with a server network system, the method comprising:

first storing, in a table configured for storing multiple entries, an entry having a work queue entry field that specifies a transmitted work queue entry, the entry including at least first and second link fields each configured for referencing another entry in the table, the first storing step including storing in the first link field a first entry identifier for one of the transmitted work queue entry or a subsequently transmitted work queue entry relative to the transmitted work queue entry, wherein the first entry identifiers in the respective first link fields form a first linked list specifying a transmit sequence of the transmitted work queue entries;

detecting an acknowledgement for at least a first of the transmitted work queue entries stored in the table; and
generating in the table a second linked list specifying an acknowledgement sequence of the transmitted work queue entries by second storing, in the second link field of the entry corresponding to the first transmitted work queue entry, a second entry identifier based on the detecting step, the second entry identifier specifying one of the first transmitted work queue entry or an entry having received a subsequent acknowledgement relative to the detected acknowledgement.

First, the claims fail to teach or suggest the addition of the entries based on transmission of the work queue entry. Examiner would like to point that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

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Secondly, the claim discloses, “transmitted work queue entry”, however the claim fails to disclose the actual transmission of the work item and/or the data associated with the work item. Therefore, the “transmitted work queue entry can simply be interpreted as an work queue entry transmitted or added to the memory or a data structure.

As acknowledged by the applicant, Kagan discloses the process of storing the list of descriptors in the memory (col. 6 L54-59, col. 7 L29-31 and col. 8 L1-12, See figure 2). Please note these list of descriptors is the list of work items prepared by the CPU and stored in the memory.

On page 11 of the remarks, applicant asserts that “hence, the DMA engine does not transmit the data associated with the descriptor until after reading the descriptor”, however Examiner is at total lost as to how this limitation or teaching corresponds to the claimed invention because the claims does not disclose, teach or even suggest transmitting the data.

Therefore applicant’s argument drawn towards the distinction between the prior art and the claimed invention, based on the feature above is not persuasive.

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b. Kagan provides no disclosure or suggestion of the claimed feature that each entry in the table also includes a second link field configured for referencing another entry on the table (remarks, page 12).

In response to argument [b], Examiner disagrees.

Kagan explicitly discloses the table that schematically illustrates a chain or linked list, of DMA descriptors, i.e. work items (fig. 2) prepared in the memory. A link field such as item #50 is configured to reference another entry in the table (see figure below) and continues to reference another entry until a null pointer is encountered. So technically, all the entries in the field 50 are referencing to another entries in the table.

FIG. 2

OPCODE	SOURCE ADDRESS	DEST. ADDRESS	NEXT	STATUS
SEND	ABCD1234	5678DCBA	90ABCD12	1
RDMA	. . .	. . .	34567891	1
. . .	. . .	. . .	0ABCD012	1
. . .	. . .	. . .	00000000	2

FIG. 3

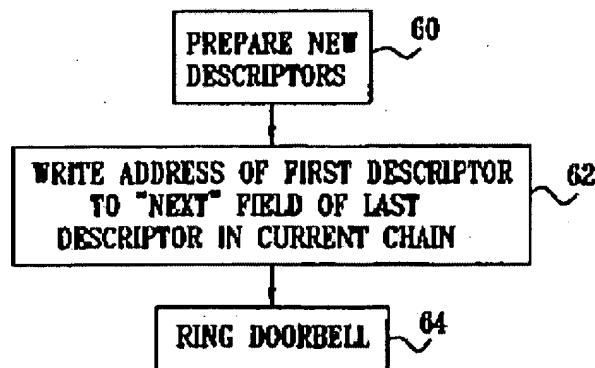


Figure 3 of Kagan schematically illustrates a method by which CPU prepares and links a new chain of descriptors to an earlier chain that was previously submitted to DMA engine. The new descriptor chain is written to memory, typically by application program running on the CPU, at a descriptor preparation step. To link the new chain to the earlier chain, CPU rewrites pointer in final descriptor in the new chain. The CPU preferably links the first descriptor of the new chain to the last descriptor in the preceding chain (see col. 8 L1-15).

Figure 3 and the passage above, is evident that Kagan does teach the process of generating the second linked list that is linked to the first linked list.

Kagan also detects and stores the status of each of the work item in the linked list (see fig. 2 above).

Therefore, applicant's argument directed towards the distinction between the prior art and the claimed invention based on the feature above is not persuasive.

c. Avery does not disclose or suggest a second linked list specifying the acknowledgement sequence, as claimed (remarks, page 12).

In response to argument [c], Examiner disagrees.

As set forth in response to argument [b], Kagan discloses the process of generating a second linked list specifying the sequence of work items (see fig. 2 and fig. 3).

However, Kagan does not disclose the process of detecting an acknowledgment for at least a first of the transmitted work queue entries stored in the table; and generating in the table an acknowledgement sequence of the transmitted work queue entries by second storing, in the

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second link field of the entry corresponding to the first transmitted work queue entry, a second entry identifier based on the detecting step, the second entry identifier specifying one of the first transmitted work queue entry and an entry having received a subsequent acknowledgement relative to the detected acknowledgement.

Avery, from the same field of endeavor discloses the process of detecting an acknowledgement for at least a first of the transmitted work queue entries stored in the table and generating in the table a linked list specifying an acknowledgement sequence of the transmitted work queue entries by second storing, in the second link field of the entry corresponding to the first transmitted work queue entry, a second entry identifier based on the detecting step, the second entry identifier specifying one of the first transmitted work queue entry and an entry having received a subsequent acknowledgement relative to the detected acknowledgement (fig. 7 item #754, 703, 705, 770 and col. 8 L43 to col. 11 L25 and col. 12 L1-45).

Avery teaches the linked list that references other entry in the memory and specifying the acknowledgments (see fig. 7).

Technically, Kagan in view of Avery discloses each and every limitation of the claimed invention because all the major components such as linked lists, detecting acknowledgement, and the data structure, of the invention has been expressly taught and disclosed and its within the scope of ordinary skilled in the art to modify Kagan in view of Avery in order to arrive at the invention claimed in the present application.

The modification would be such that the second linked list in Kagan is configured to specify the acknowledgement sequence as detected in Avery.

Therefore applicant's argument directed towards the distinction between the prior art and the claimed invention based on the feature above is not persuasive.

d. Avery provides no disclosure or suggestion of storing an acknowledgement sequence of transmitted work queue entries (remarks, page 14).

In response to argument [d], Examiner disagrees.

Avery clearly teaches the process of receiving the response, i.e. an acknowledgement, and updating the DMA scoreboard, i.e. storing the acknowledgment sequence (see fig. 9B item #922, 924).

In column 9 lines 57-65, Avery clearly teaches the process of tracking the outstanding work entries to insure all outstanding requests are completed. The DMA scoreboard contains data tags to track returning from outstanding DMA read requests and ACK flags which track whether DMA writes have been completed.

When the response packet is received, these data tags and ACK flags are updated and/or stored for the respective work entry.

Furthermore, in column 11 line 4-25, Avery makes it clear where when the response packet, i.e. an acknowledgement, is received from the initial DMA read request, i.e. a work item, the process proceeds to step 924 where the DMA scoreboard is updated by adding the prefetch size stored in the field 774 to the current address and storing the result in the next address field 772.

As such, Avery does teach and disclose the process of storing or specifying the acknowledgement sequence of the work items, otherwise what will be the point of detecting the

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acknowledgement if its not stored in the data structure and how will one detect or track the outstanding DMA requests.

e. Based on the foregoing, there is no disclosure or suggestion whatsoever that the Infiniband address map, the RDMA work queue pair, and the DMA context scoreboard would be implemented within the same data structure (remarks, page 16).

In response to argument [e], Examiner disagrees.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., same data structure) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

f. Hence, there is no disclosure or suggestion that one skilled in the art would have been motivated to modify Kagan, as described in Aver, to result in a hypothetical combination where a single table included first and second link fields for first and second linked lists specifying a transmit sequence and an acknowledgement sequence, respectively (remarks, page 16).

In response to argument [f], Examiner respectfully disagrees..

Independent claim 1 recites:

A method in a channel adapter configured for communications with a server network system, the method comprising:

first storing, in a table configured for storing multiple entries, an entry having a work queue entry field that specifies a transmitted work queue entry, the entry including at least first and second link fields each configured for referencing another entry in the table, the first storing step including storing in the first link field a first entry

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identifier for one of the transmitted work queue entry or a subsequently transmitted work queue entry relative to the transmitted work queue entry, wherein the first entry identifiers in the respective first link fields form a first linked list specifying a transmit sequence of the transmitted work queue entries;

detecting an acknowledgement for at least a first of the transmitted work queue entries stored in the table; and

generating in the table a second linked list specifying an acknowledgement sequence of the transmitted work queue entries by second storing, in the second link field of the entry corresponding to the first transmitted work queue entry, a second entry identifier based on the detecting step, the second entry identifier specifying one of the first transmitted work queue entry or an entry having received a subsequent acknowledgement relative to the detected acknowledgement.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a single table including a first and second link fields for first and second linked lists specifying a transmit sequence and an acknowledgement sequence, respectively) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Based on the teachings of Kagan and Avery, the modification to arrive at the instant claimed invention is within the scope of one of ordinary skilled in the art. Kagan teaches and discloses linked lists that specify outstanding work items and tracking the status of each work items, and Avery teaches and discloses the process of tracking the outstanding work requests by detecting the acknowledgments. One of ordinary skilled in the art would have been motivated for the reasons as set forth in the rejection below.

Therefore, applicant's argument above directed towards the distinction between the prior art and the claimed invention in the present application, based on the features above, are not persuasive.

As such, THIS REJECTION IS MAINTAINED.

DETAILED ACTION

Specification

The objection presented in the prior office action has been withdrawn.

Claim Rejections - 35 USC § 112

The 35 U.S.C. 112, first paragraph rejection presented in the prior office action has been withdrawn due to claim amendments, i.e. the removal of “and” and incorporation of “or” into the independent claims.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

1. Claims 5-7 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Independent claim 5 recites:

A channel adapter comprising:

a table configured for storing entries identifying respective work queue entries having been transmitted according to a service protocol requiring receipt of an acknowledgment message, each entry including:

- (1) a work queue entry field configured for specifying the corresponding work queue entry,
 - (2) a first link field configured for specifying a first entry identifier referencing one of the corresponding entry or another entry for a subsequently transmitted work queue entry relative to the corresponding entry, and
 - (3) a second link field configured for storing a second entry identifier referencing one of the corresponding entry or another entry having received a subsequent acknowledgement; an acknowledgement detector configured for detecting the acknowledgements for the work queue entries; and
- a table manager configured for adding the table entries based on transmission of the respective work queue entries, the table manager configured for inserting the corresponding first entry identifier based on the subsequently transmitted work queue entry, the table manager configured for inserting the corresponding second entry identifier based on the entry having received the subsequent acknowledgement, the first and second link fields forming first and second linked lists identifying a transmit sequence of the transmitted work queue entries and an acknowledgement sequence of the transmitted work queue entries, respectively.

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First, the claim does not fall into any of the four enumerated categories of patentable subject matter recited within 35 U.S.C. 101 (i.e. it's neither a process, machine, manufacture nor composition of matter).

Secondly, the claim as a whole is fully directed towards a mere computer program. Computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs are not physical "things". They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permits the computer program's functionality to be realized.

The claim fails to disclose any physical structure such as processor, memory, computer-readable medium, etc., that will execute the computer program and to produce useful, concrete and tangible results.

As such, the claims are directed towards the non-statutory subject matter as set forth above and are therefore considered non-statutory.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kagan et al., (hereinafter Kagan, U. S. Patent No. 6,735,642 B2) in view of Avery (U. S. Patent No. 6,611,883 B1).

As per claim 1, Kagan discloses a method in a channel adapter configured for communications with a server network system (col. 1 L15-30), the method comprising:

- first storing, in a table configured for storing multiple entries, an entry having a work queue entry field that specifies a transmitted work queue entry, the entry including at least first and second link fields each configured for referencing another entry in the table, the first storing step including storing in the first link field a first entry identifier for one of the transmitted work queue entry and a subsequently transmitted work queue entry relative to the transmitted work queue entry, wherein the first link entry identifiers in the respective first link fields form a first linked list specifying a transmit sequence of the transmitted work queue entries (fig. 2, col. 1 L15-62, col. 6 L54 to col. 7 L67 and col. 8 L1-12);

- generating in the table a second linked list specifying work queue entries and a status field that tracks the completion status of the entry (fig. 2 and col. 2 L30-35, col. 7 L58-60 and col. 8 L56-67).

However, Kagan does not disclose the process of detecting an acknowledgment for at least a first of the transmitted work queue entries stored in the table; and generating in the table a second linked list specifying an acknowledgement sequence of the transmitted work queue entries by second storing, in the second link field of the entry corresponding to the first transmitted work queue entry, a second entry identifier based on the detecting step, the second entry identifier specifying one of the first transmitted work queue entry and an entry having received a subsequent acknowledgement relative to the detected acknowledgement.

Avery, from the same field of endeavor discloses the process of detecting an acknowledgement for at least a first of the transmitted work queue entries stored in the table and generating in the table a second linked list specifying an acknowledgement sequence of the transmitted work queue entries by second storing, in the second link field of the entry corresponding to the first transmitted work queue entry, a second entry identifier based on the detecting step, the second entry identifier specifying one of the first transmitted work queue entry and an entry having received a subsequent acknowledgement relative to the detected acknowledgement (fig. 7 item #754, 703, 705, 770 and col. 8 L43 to col. 11 L25 and col. 12 L1-45).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Kagan in view of Avery in order to detect an acknowledgement for the at least a first transmitted work queue entries stored in the table and generating in the table a second linked list specifying an acknowledgment sequence of the transmitted work queue entries by storing the identifier in the second linked list, since Avery

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expressly teaches the process of detecting and specifying the acknowledgement of the transmitted work queue entries in a table.

One of ordinary skilled in the art would have been motivated because it would have simply tracked the completion, outstanding and/or status of the DMA requests (i.e. read/ write processes, Avery, col. 3 L18-25, col. 9 L58-67).

As per claim 2, Kagan discloses the process wherein the first storing step includes storing the entry in a send queue table by a free buffer manager (col. 1 L32-35, col. 2 L60-65, col. 6 L54-59, col. 8 L1-12).

As per claim 3, Kagan does not disclose the process of parsing the second linked list to determine transmitted work queue entries awaiting acknowledgements.

Avery, from the same field of endeavor discloses the process of parsing the tracking the tracking section (checking second linked list) to determine transmitted work queue entries awaiting acknowledgement (col. 10 L48-60 and col. 9 L58-65).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Kagan in view of Avery in order to parse the linked list (i.e. an entry in a table) to determine transmitted work queue entries awaiting acknowledgement.

One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 1.

As per claim 4, Avery discloses the process of tracking (detecting or receiving) acknowledgement according to Infiniband protocol (col. 10 L48-59, fig. 3 and fig. 9B item #922).

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As per claim 5, Kagan discloses a channel adapter (col. 7 L19-28) comprising:
a table configured for storing entries identifying respective work queue entries having been transmitted according to a service protocol requiring receipt of the completion status (fig. 2), each entry including:

- a work queue entry field configured for specifying the corresponding work queue entry (fig. 2),

- a first link field configured for specifying a first entry identifier referencing one of the corresponding entry and another entry for a subsequent transmitted work queue entry relative to the corresponding entry (fig. 2 item #42, 52, 44), and

- a second link field configured for storing a second entry identifier referencing one of the corresponding entry and another entry having a subsequent completion status (fig. 2);

a table manager configured for adding the table entries based on transmission of the respective work queue entries, the table manager configured for inserting the corresponding first entry identifier based on the subsequently transmitted work queue entry, the table manager configured for inserting the corresponding second entry identifier based on the entry having received the subsequent completion status, the first and second link fields forming first and second linked lists identifying a transmit sequence of the transmitted work queue entries and a completion status sequence of the transmitted work queue entries, respectively (col. 1 L15-65, col. 2 L56 to col. 3 L6, col. 6 L54 to col. 7 L25, col. 7 L29 to col. 8 L13).

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However, Kagan does not disclose an acknowledgment detector configured for detecting an acknowledgment for the work queue entries and inserting the acknowledgement identifier in the table.

Avery, from the same field of endeavor discloses the process of detecting an acknowledgement for at least a first of the transmitted work queue entries stored in the table and generating in the table a second linked list specifying an acknowledgement sequence of the transmitted work queue entries by second storing, in the second link field of the entry corresponding to the first transmitted work queue entry, a second entry identifier based on the detecting step, the second entry identifier specifying one of the first transmitted work queue entry and an entry having received a subsequent acknowledgement relative to the detected acknowledgement (fig. 7 item #754, 703, 705, 770 and col. 8 L43 to col. 11 L25 and col. 12 L1-45).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Kagan in view of Avery in order to detect an acknowledgement for the at least a first transmitted work queue entries stored in the table and generating in the table a second linked list specifying an acknowledgment sequence of the transmitted work queue entries by storing the identifier in the second linked list, since Avery expressly teaches the process of detecting and specifying the acknowledgement of the transmitted work queue entries in a table.

One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 1.

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As per claim 6-7, they do not teach or further define over the limitations in claims 1-5. Therefore, claims 6-7 are rejected for the same reasons as set forth in claims 1-5.

Additional References

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Avery, U. S. Patent No. 6,622,193 B1.
- b. Avery, U. S. Patent No. 6,813,653 B2.
- c. Kagan et al., Pub. No.: US 2002/0165899 A1: Multiple Queue Pair Access with Single Doorbell.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMAL B. DIVECHA whose telephone number is 571-272-5863. The examiner can normally be reached on Increased Flex Work Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Kamal Divecha
Art Unit 2151
December 7, 2006.



ZARNI MAUNG
SUPERVISORY PATENT EXAMINER